



# PROTOCOL™

For control of certain diseases in Almonds, Peanuts, Pecans, Soybeans, Stone fruits, Strawberries, Sugar beets, Wheat, Turf and Ornamentals.

**ACTIVE INGREDIENTS:**

Thiophanate-methyl**:	(dimethyl[(1,2-phenylene)-bis(iminocarbonothioyl)]bis(carbamate) . . . . .	23.7%
Propiconazole*:	1-[[2-(2,4-dichlorophenyl)-4-propyl-1, 3-dioxolan-2-yl]methyl]-1H-1,2,4-triazole . . . . .	7.1%
<b>OTHER INGREDIENTS</b>	.....	<b>69.2%</b>
	<b>TOTAL</b>	<b>100.0%</b>

\*\*Contains 2.25 pounds thiophanate-methyl per gallon.

\*Contains 0.68 pound propiconazole per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911, or call an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment.  <b>FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565</b></p>	

EPA REG. NO. 34704-1064

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NET CONTENTS 2.5 GAL (9.46 L)

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**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**  
**CAUTION**

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wear protective eyewear. Harmful if swallowed. Harmful if inhaled. Harmful if absorbed through skin. Avoid breathing vapor or spray mist. Remove and wash contaminated clothing before reuse.

**Personal Protective Equipment (PPE):**

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category A on the EPA chemical resistance category selection chart.

**All handlers (mixers loaders and applicators, or individuals performing one or more of these tasks) must wear:**

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves, such as nitrile or butyl rubber > 14 mils,
- Chemical-resistant apron, for all mixers and loaders and other handlers exposed to the concentrate.

Remove and wash contaminated clothing before reuse. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

**Engineering Controls**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands thoroughly with soap and water and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and shrimp. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate. Refer to product labeling for use restrictions to protect endangered species.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

**RESTRICTIONS**

**Rotational Crops** To avoid possible illegal residues, do not plant any other crop intended for food, grazing, or any component of animal feed or bedding within 105 days of an application of Protocol™ to the preceding crop unless the second crop appears on this label. Alfalfa may be planted 75 days after the last application of Protocol if the total application of propiconazole has not exceeded 0.22 pound active ingredient per acre during the previous year.

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**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI). Refer to Crop Specific Instructions section for details.**

**Exception:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves made of any waterproof material,
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear for overhead exposures.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

**Entry Restrictions for Non-WPS Uses: Do not enter or allow others to enter until sprays have dried.**

The active ingredient in this product may have effects on federally-listed threatened and endangered species or critical habitat in some counties. When using this product, you must follow the measures contained in the County Bulletin for the county in which you are applying the pesticide. To determine whether your county has a bulletin, consult <http://www.epa.gov/espp/bulletins.htm>. Bulletins may also be available from local pesticide dealers, extension offices, or state pesticide agencies.

**Product Information**

Protocol is a broad-spectrum fungicide for the control of certain diseases in Almonds, Peanuts, Pecans, Soybeans, Stone fruits, Strawberries, Sugar beets, Wheat, Turf and Ornamentals.

**Important:** Do not use in Greenhouses or as a Tree injection.

Failure to follow directions and precautions on this label may result in crop injury, poor disease control, and/or illegal residues.

**Integrated Pest Management**

Protocol should be integrated into an overall disease and pest management (IPM) strategy whenever the use of a fungicide is required. Cultural practices known to reduce disease development should be followed. Consult your local agricultural authorities for additional IPM strategies established for your area.

This product may be used in state agricultural extension advisory (disease forecasting) programs using the recommended application timing based upon environmental factors favorable for disease development.

**Fungicide Resistance Management**

Propiconazole belongs to the sterol demethylation inhibitor (DMI) class of fungicides and is classified as a Group 3 Fungicide. Thiophanate-methyl belongs to the Methyl Benzimidazole Carbamates (MBC) class of fungicides and is classified as a Group 1 Fungicide. Since certain fungi can develop resistance to these classes of products, the use of Protocol should be part of a resistance management strategy that includes alternation and/or tank mixing with another fungicide mode of action. Because resistance development cannot be predicted, use of this product should conform to resistance management strategies established for the crop and use area. Rotate to a product that is effective on the target pathogen and has a mode of action different from this product. Apply the alternate products within the intervals specified on this product's label. Do not apply this product at rates below those specified on the label. If tank mixing, use the full label rate of this product with the full label

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rates of other products effective on the target pest. Consult your local or state agricultural authorities for resistance management strategies that are appropriate for your disease management program. This product should not be alternated or tank-mixed with any fungicide to which resistance has already developed.

### **Spray Equipment**

Thorough coverage is necessary to provide good disease control. To avoid spray drift, do not apply when conditions favor drift beyond the target area. Avoid spray overlap as crop injury may occur. Air assisted or air blast sprayers move spray droplets into the canopy using a forced air stream. Set up the fan to deliver only enough air volume to penetrate the canopy and provide good coverage. Adjust deflectors or other aiming devices to direct spray only to the target area. Equip sprayers with nozzles that provide accurate and uniform application. Be certain that nozzles are the same size and uniformly spaced across the boom. Calibrate the sprayer before use. Use a pump with sufficient capacity to maintain 35 to 40 psi at nozzles and provide sufficient agitation in tank to keep mixture in suspension (this requires recirculation of 10% of tank volume per minute). Use a jet agitator or liquid sparger tube for agitation. Do not use air sparging. Although Protocol is an emulsifiable concentrate, it is suggested that screens be used to protect the pump and to prevent nozzles from clogging. Screens placed on suction side of pump should be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom and, where required, at the nozzles. Check nozzle manufacturer's recommendations. For more information on spray equipment and calibration, consult sprayer manufacturers and state recommendations. For specific local directions and spray schedules, consult the current state agricultural experiment station recommendations.

### **MIXING INSTRUCTIONS**

Prepare no more spray mixture than is required for the immediate operation. Thoroughly clean spray equipment before using this product. Agitate the spray solution before and during application. Rinse spray tank thoroughly with clean water after each day's use and dispose of pesticide rinsate by application to an already treated area.

**Protocol (Alone):** Add 1/2 to 2/3 of the required amount of water to the spray or mixing tank. With the agitator running, add Protocol to the tank. Continue agitation while adding the remainder of the water. Begin application of the spray solution after this product has completely dispersed into the mix water. Maintain agitation until all of the mixture has been sprayed.

**Protocol (in Tank Mixes):** Protocol is usually compatible with all tank mix partners listed on this label. To determine the physical compatibility of this product with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to 1.0 quart of water. Add wettable powders and water dispersible granular products first, then liquid flowables and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank. Add 1/2 to 2/3 of the required amount of water to the spray or mixing tank. With the agitator running, add the tank mix partner into the tank. Allow the material to completely dissolve and disperse into the mix water. Continue agitation while adding the remainder of the water and this product to the spray tank. Allow this product to completely disperse. Spray the mixture with the agitator running.

**Do not apply this product in a tank mix with a dodine fungicide or crop injury may occur.**

If using this product in a tank mix, observe directions for use, crops/sites, application rates, dilution ratios, precautions, and limitations required by the label(s) of the tank mix product(s). No label dosage rate may be exceeded, and the most restrictive label precautions and limitations of this product and of the tank mix partners must be followed. Do not tank mix this product with any product that prohibits such mixing. Tank mixes or other applications of products referenced on this label are permitted only in those states in which the referenced products are registered.

### **APPLICATION INSTRUCTIONS**

Protocol is most effective when applied and allowed to dry before a rainfall. Avoid applying this product under conditions when uniform coverage cannot be obtained or when excessive spray drift may occur. Do not apply in a manner which results in exposure to humans or animals.

### **Spray Drift Management**

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

**Wind Speed:** Do not apply at wind speeds greater than 15 mph.

**Droplet Size:** Apply as a medium or coarser spray (ASABE Standard 572)

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**Temperature Inversions:** If applying at wind speeds less than 3 mph, the applicator must determine if

- a) conditions of temperature inversion exist, or
- b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

**Other State and Local Requirements:** Applicators must follow all state and local pesticide drift requirements. Where states have more stringent regulations, they must be observed.

**Equipment:** All application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

**Aerial Application:**

1. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
2. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
3. When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

**Ground Application:**

- For Tree crops, apply this product in a minimum of 50.0 gallons of water per acre unless otherwise specified.
- For all Other crops, apply this product in a minimum of 10.0 gallons of water per acre unless otherwise specified.

**Aerial Application:**

- For Tree crops, apply this product in a minimum of 10.0 gallons of water per acre unless otherwise specified.
- For all Other crops, apply this product in a minimum of 2.0 gallons of water per acre unless otherwise specified.

**Chemigation Application (Chemigation is prohibited in California):**

This product may be applied through properly equipped chemigation systems for disease control in the labeled crops. Refer to crop-specific use directions for application rates, timing and frequency of application. Do not apply Protocol by chemigation to other labeled crops except as specified in Loveland Products, Inc. supplemental labeling or product bulletins. When applying this product by chemigation, do not exceed labeled rates or apply more frequently than directed for conventional application methods. This product may be applied through irrigation systems alone or in combination with other pesticides that are registered for application through irrigation systems. For chemigation application to labeled crops, apply in 0.1 to 0.25 inches of water unless otherwise specified. Chemigation with excessive water may lead to a decrease in efficacy.

**Chemigation Precautions:**

- Apply this product only through center pivot, solid set, hand move, or moving wheel irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone (RPZ), backflow preventer or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

**Note:** Do not inject this product at full strength or deterioration of valves and seals may occur. Use a dilution ratio of at least 10 parts water to 1 part Protocol. This product is corrosive to many seal materials. Leather seals are best. EPDM or silicone rubber seals can be used but should be replaced once a year. Do not use Viton, Buna-N, Neoprene, or PVC seals.

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**Specific Equipment Requirements**

- The system must contain a functional check-valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline, must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

**Center Pivot Irrigation Equipment**

- Use only with drive systems that provide uniform water distribution.
- Do not use end guns when applying Protocol through center pivot systems because of non-uniform application.
- Determine size of area to be treated.
- Determine the time required to apply 1/8 to 1/2 inch of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. When applying Protocol through irrigation equipment, use the lowest obtainable water volume while maintaining uniform distribution. Run the system at 80% to 95% of the manufacturer's rated capacity.
- Using only water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Protocol required to treat the area covered by the irrigation system.
- Add the required amount of Protocol and sufficient water to meet the injection time requirements of the solution tank.
- Make sure the system is fully charged with water before starting injection of Protocol. Time the injection to last at least as long as it takes to bring the system to full pressure.
- Maintain constant solution tank agitation during the injection period.
- Stop injection equipment after treatment is completed. Continue to operate the system until the solution of Protocol has cleared the sprinkler head.

**Solid-Set, Hand Move, and Moving Wheel Irrigation Equipment**

- Determine the acreage covered by the sprinkler.
- Fill the injector solution tank with water and adjust flow rate to use the contents over a 20- to 30-minute interval. When applying Protocol through irrigation equipment, use the lowest obtainable water volume while maintaining uniform distribution.
- Determine the amount of Protocol required to treat the area covered by the irrigation system.
- Add the required amount of Protocol into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate the system at normal pressures recommended by the manufacturer of the injection equipment and used for the time interval established during the calibration.
- Inject Protocol at the end of the irrigation cycle or as a separate application to maximize foliar fungicide retention.
- Stop injection equipment after treatment is completed. Continue to operate the system until the solution of Protocol has cleared the last sprinkler head.

**CROP-SPECIFIC INSTRUCTIONS**

**ALMONDS**

**Restrictions**

- Do not apply more than 7.5 pints per acre per season of Protocol.
- Maximum amount of propiconazole allowed per season: 0.9 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 2.1 pounds active ingredient per acre.
- Do not graze livestock in treated areas or cut treated cover crop for feed.
- Preharvest Interval (PHI) is 60 days.
- Restricted Entry Interval (REI) is 72 hours.

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**Almonds cont'd.:**

**Application methods**

- Ground: Apply the specified amount in a minimum of 50.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 15.0 gallons water per acre.
- Chemigation: not allowed on this crop.

Target Disease	Application Rate Pint per Acre	Application Timing and Remarks
Brown rot blossom blight ( <i>Monilinia laxa</i> , <i>M.fructicola</i> ) Jacket rot ( <i>Monilinia</i> , <i>Sclerotinia</i> , <i>Botrytis</i> ) Leaf blight ( <i>Seimatosporium</i> ) Scab ( <i>Cladosporum</i> )	2.66	Apply this product at 5% to 10% bloom and again at 50% to 100% bloom. Minimum retreatment interval is 7 days.
Anthracnose ( <i>Collectotrichum acutatum</i> )	2.66	Apply Protocol beginning at bud break on a 7- to 14-day interval.

**PEANUTS**

**Restrictions**

- Do not apply more than 5.0 pints per acre per season of Protocol.
- Maximum amount of propiconazole allowed per season: 0.45 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 1.4 pounds active ingredient per acre.
- Do not feed hay from treated fields to livestock if the high rate is used (2.5 pints per acre).
- Preharvest Interval (PHI) is 14 days with the low use rate (1.25 pints per acre).
- Preharvest Interval (PHI) is 21 days with the high use rate (2.5 pints per acre).
- Restricted Entry Interval (REI) is 24 hours.

**Application methods**

- Ground: Apply the specified amount in a minimum of 10.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 2.0 gallons water per acre.
- Chemigation: Apply in 0.1 to 0.25 inches of water.

Protocol is most effective when applied and allowed to dry before a rainfall.

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***Peanuts cont'd.:***

<b>Target Disease</b>	<b>Application Rate Pint per Acre</b>	<b>Application Timing and Remarks</b>
Early leaf spot ( <i>Cercospora arachidicola</i> )	0.83 to 1.25	Apply beginning 35 to 40 days after planting or at the first appearance of disease and reapply on a 10- to 14-day schedule. Under heavy disease pressure, use the higher rate. This product may also be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based upon environmental factors favorable for disease development. Optimum control of Limb and Pod rot may be obtained by combining Protocol applications with a chlorothalonil fungicide (such as Initiate® 720). See the table below for timing of applications.
Late leaf spot ( <i>Cercosporidium personatum</i> ) Limb rot and Pod rot ( <i>Rhizoctonia solani</i> ) Rust ( <i>Puccinia arachidis</i> ) Web blotch ( <i>Phoma arachidicola</i> )	1.25	
Southern stem rot ( <i>Sclerotium rolfsii</i> )	1.25	Apply to the crown and pegging zones of the plant by chemigation or directed ground application. Begin applications 45 days after planting or at the first appearance of disease. Repeat on a 14-day interval. When applying in irrigation water for Southern stem rot control, use a minimum of 0.25 to 0.5 inch of water per acre. Use enough water so the fungicide penetrates the peanut canopy and reaches the crown of the plant where the disease is most active. When applying via irrigation or as a directed ground application, additional methods should be employed for leaf spot control. Moderate to heavy White mold infestations may not be fully controlled. Another suitable fungicide containing tebuconazole (such as Monsoon®) and/or flutolanil may be added to the tank to improve control of White mold.

**Application timing of Protocol for Control of Rhizoctonia Limb and Pod Rot on Peanuts**

<b>Spray Program</b>	<b>Protocol Application No.</b>	<b>Chlorothalonil Application No.</b>
7 applications	3,4,5 and 6	1,2 and 7

**PECANS**

**Restrictions**

- Do not apply more than 7.5 pints per acre per season of Protocol.
- Maximum amount of propiconazole allowed per season: 0.9 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 2.1 pounds active ingredient per acre.
- Do not apply after shuck split.
- Do not graze livestock in treated areas or cut treated cover crop for feed.
- Restricted Entry Interval (REI) is 72 hours.

**Application methods**

- Ground: Apply the specified amount in a minimum of 50.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 15.0 gallons water per acre.
- Chemigation: Not allowed on this crop.



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***Pecans cont'd.:***

<b>Target Disease</b>	<b>Application Rate Pint per Acre</b>	<b>Application Timing and Remarks</b>
Brown spot <i>(Cercospora fusca)</i> Downy spot <i>(Mycosphaerella caryigena)</i> Liver spot <i>(Gnomonia caryae var pecanae)</i> Pecan scab <i>(Cladosporium caryigenum)</i> Powdery mildew <i>(Microsphaera penicillata)</i> Stem end blight <i>(Botryosphaeria ribis)</i> Vein spot <i>(Gnomonia nerviseda)</i> Zonate leaf spot <i>(Cristulariella moricola)</i>	1.25 to 2.5	<b>Pecan scab:</b> Apply on a 14-day schedule during bud break and pre-pollination sprays. Apply 2.0 to 2.5 pt/A during nut formation and cover sprays. Use the higher rate when disease pressure is heavier. <b>Other listed foliar diseases:</b> Apply 1.25 pt/A with other products registered for Pecans and labeled for these mid- to late-season foliar diseases. Observe all directions, precautions, and limitations for the other products.

**SOYBEANS**

**Restrictions**

- Do not apply more than 4.0 pints per acre per season of Protocol.
- Maximum amount of propiconazole allowed per season: 0.34 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 1.4 pounds active ingredient per acre.
- Apply up to Stage R6
- Do not graze or feed treated vines or hay to livestock.
- Restricted Entry Interval (REI) is 24 hours.

**Application methods**

- Ground: Apply the specified amount in a minimum of 10.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 2.0 gallons water per acre.
- Chemigation: Not allowed on this crop.

Protocol is most effective when applied and allowed to dry before a rainfall.

<b>Target Disease</b>	<b>Application Rate Pint per Acre</b>	<b>Application Timing and Remarks</b>
Aerial web blight <i>(Rhizoctonia solani)</i> Anthracnose <i>(Colletotrichum truncatum)</i> Brown spot <i>(Septoria glycines)</i> Frogeye leaf spot <i>(Cercospora sojina)</i> Powdery mildew <i>(Microsphaera diffusa)</i> Purple seed stain <i>(Cercospora kikuchii)</i> Soybean rust <i>(Phakopsora pachyrhizi)</i> White mold <i>(Sclerotinia sclerotinia)</i>	2.0	<b>Aerial web blight:</b> Apply 2.0 pt/A at the first appearance of disease and repeat the application 14 to 21 days later. Under severe disease conditions use the shorter interval. <b>Soybean rust:</b> Apply 2.0 pt/A at first indication that disease is in the area. For best control, use preventive applications. Repeat on 14- to 21-day interval. Use the shorter interval when disease is present in field and incidence is less than 2% (2 plants in 100 are infected). If incidence is greater than 2% or if disease is in mid canopy, control will not be acceptable. Scouting for the disease and/or being aware of the proximity of the disease via monitoring systems will aid in the proper timing to maximize the effectiveness of the fungicide applications. <b>White mold:</b> Apply at growth stage R1-R2 and repeat on a 14-day interval. <b>Other foliar diseases:</b> Apply 2.0 pt/A at growth stage R3 (early pod set when pods are 1/8 to 1/4 inch long) and 14 to 21 days later at growth stage R5 (pod fill).

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***Soybeans cont'd:***

Target Disease	Application Rate Pint per Acre	Application Timing and Remarks
		On certain varieties, applications of this product may cause crinkled, smaller and/or greener leaves. Yields of dry beans displaying these characteristics have not been reduced due to Protocol treatments.

**STONE FRUITS**

Apricot, Chickasaw plum, Damson plum, Japanese plum, Nectarine, Peach, Plum, Plum-Cot, Prune, Sweet cherry, Tart cherry, and cultivars and/or hybrids of these included in the Stone fruits crop grouping

**Restrictions**

- Do not apply more than 6.6 pints per acre per season of Protocol.
- Maximum amount of propiconazole allowed per season: 0.56 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 2.8 pounds active ingredient per acre.
- Preharvest Interval (PHI) is 1 day.
- Restricted Entry Interval (REI) is 48 hours.

**Precaution**

Applications of Protocol during bloom to Stanley plums have occasionally caused fruit to be less oval in shape and smaller in size at harvest. To avoid this, do not apply to Stanley plums earlier than 21 days before harvest.

**Application methods**

- Ground: Apply the specified amount in a minimum of 50.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 15.0 gallons water per acre.
- Chemigation: Not allowed on this crop.

For best control of stone fruit diseases, apply by ground application.

Target Disease	Application Rate Pint per Acre	Application Timing and Remarks
Brown rot blossom blight ( <i>Monilinia</i> spp)	1.33	Apply at early bloom stage. If disease pressure is low, a second application may be made as needed through petal fall. Under conditions of high disease pressure and/or very susceptible varieties, make a second application from 75% to 100% bloom and a third application at petal fall.
Fruit brown rot ( <i>Monilinia</i> spp)	1.33	Apply a maximum of 2 sprays as needed during the preharvest period up to the day of harvest. If high inoculum and severe disease conditions persist, apply another registered fungicide after applying this product twice.
Cherry leaf spot ( <i>Blumeriella jaapii</i> ) Powdery mildew ( <i>Podosphaera</i> spp.) Rust ( <i>Tranzschelia discolor</i> )	1.33	Apply at early bloom stage. If disease pressure is low, a second application may be made as needed through petal fall. Under conditions of high disease pressure and/or very susceptible varieties, make a second application from 75% to 100% bloom and a third application at petal fall. Make up to 2 additional applications on a 10- to 14-day interval from the end of petal fall to harvest.
Peach scab ( <i>Cladosporium</i> spp.)	2.5 to 3.75 (in CA use 3.75)  PLUS 2.8 to 3.75	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. PLUS Apply at shuck split and first cover sprays.
Black knot ( <i>Dibotryon morbosum</i> )	2.5 to 3.75 (in CA use 3.75)	Apply at pre-bloom, petal fall and at first, second or third cover sprays at 10- to 14-day intervals.

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**STRAWBERRIES**

**Restrictions**

- Do not apply more than 5.3 pints per acre per season of Protocol.
- Maximum amount of propiconazole allowed per season: 0.45 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 2.8 pounds active ingredient per acre.
- Preharvest Interval (PHI) is 1 day.
- Restricted Entry Interval (REI) is 24 hours.

**Application methods**

- Ground: Apply the specified amount in a minimum of 10.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 15.0 gallons water per acre.
- Chemigation: Not allowed on this crop.

Target Disease	Application Rate Pint per Acre	Application Timing and Remarks
Anthracnose ( <i>Coloetotrichum acutatum</i> ) Leaf rust ( <i>Phragmidium potentillae</i> ) Leaf spot ( <i>Cercospora fragariae</i> ) Powdery mildew ( <i>Spaerotheca macularis</i> )	1.33	Begin applications when disease levels are no more than 5%. Apply 1.33 pt/A of Protocol up to 4 times at 7-day intervals. Make no more than 2 consecutive applications before rotating to another registered fungicide with a different mode of action.
Fruit rot ( <i>Botrytis</i> ) Leaf blight ( <i>Dendrophoma obscurans</i> ) Leaf scorch ( <i>Diplocarpon earliana</i> )	1.33	Begin applications at early bloom and continue at 7- to 10-day intervals.

**SUGAR BEETS**

**Restrictions**

- Do not apply more than 4.0 pints per acre per season of Protocol.
- Maximum amount of propiconazole allowed per season: 0.34 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 2.1 pounds active ingredient per acre.
- Preharvest Interval (PHI) is 21 days.
- Restricted Entry Interval (REI) is 24 hours.

**Application methods**

- Ground: Apply the specified amount in a minimum of 50.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 15.0 gallons water per acre.
- Chemigation: Apply in 0.1 to 0.25 inches of water.

Target Disease	Application Rate Pint per Acre	Application Timing and Remarks
Leaf spot ( <i>Cercospora beticola</i> ) Powdery mildew ( <i>Erysiphe polygoni</i> )	1.25 to 1.33 (1.25 in California)	Begin applications at first sign of disease. Repeat on a 10- to 14-day interval. Make no more than 2 consecutive applications before rotating to another registered fungicide with a different mode of action. If disease levels continue to increase, immediately switch to a fungicide with a different mode of action. Protocol may be tank-mixed with a protectant fungicide such as mancozeb (e.g. Roper DF Rainshield Fungicide) when resistant strains of <i>Cercospora</i> are present. Do not make more than 1 application per season for <i>Cercospora</i> leaf spot.

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**WHEAT (Fall Seeded Only)**

**Restrictions**

- For use in Idaho, Oregon and Washington only.
- Do not apply more than 2.50 pints per acre per season of Protocol.
- Do not apply more than 1.25 pints of Protocol (0.11 pound of propiconazole) per acre per season if forage or hay will be harvested.
- Do not allow livestock to graze in treated areas before harvest.
- Maximum amount of propiconazole allowed per season: 0.22 pound active ingredient per acre.
- Maximum amount of thiophanate-methyl allowed per season: 0.70 pound active ingredient per acre.
- Do not apply after Feekes growth stage 10.5 (straw and grain).
- Preharvest Interval (PHI) is 90 days.
- Restricted Entry Interval (REI) is 24 hours.

**Application methods**

- Ground: Apply the specified amount in a minimum of 10.0 gallons water per acre.
- Aerial: Apply the specified amount in a minimum of 2.0 gallons water per acre.
- Chemigation: Apply in 0.10 to 0.25 inches of water.

Target Disease	Application Rate Pint per Acre	Application Timing and Remarks
<b>Control of leaf diseases:</b> Glume blotch <i>(Stagonospora nordorum)</i> Helminthosporium leaf blight <i>(Drechslera tritici-repentis)</i> Leaf blight <i>(Septoria tritici)</i> Net blotch <i>(Pyrenophora teres)</i> Powdery mildew <i>(Blumeria spp., Erysiphe spp.)</i> Rust <i>(Puccinia spp.)</i> Spot blotch <i>(Bipolaris sorokiniana)</i> Tan spot <i>(Pyrenophora tritici-repentis)</i>	1.33	Protecting the flag leaf is important for maximizing the potential yield. Highest yields are normally obtained when this product is applied when the flag leaf is 50% to fully emerged. The minimum retreatment interval is 14 days. Using an oil base adjuvant (Liberate®) may improve the spray coverage and canopy penetration. Do not apply after full head emergence (Feekes growth stage 10.5) to avoid possible illegal residues.
Eye spot <i>(Pseudocercospora spp.)</i> Foot rot Straw breaker	1.33	Apply at tillering but before elongation has occurred.
Fusarium head blight suppression	1.33	Apply this product at approximately 50% flowering. Addition of a penetrating type of adjuvant such as Liberate may increase Fusarium head blight suppression.

**TURFGRASS AND ORNAMENTAL INSTRUCTIONS**

**Product Information**

Protocol is a systemic fungicide for use on turfgrass for the control of the diseases below. Protocol also controls numerous diseases on Ornamentals and other Landscape and Nursery plantings, including Powdery mildews, Rusts, Leaf spots, Scabs, and Blights. Refer to the appropriate section for specified diseases and plants.

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**Turfgrass Diseases Controlled:**

**Common Name**

Anthracnose  
Brown patch  
Copper spot  
Dollar spot  
Fusarium blight  
Fusarium patch  
Gray leaf spot  
Gray snowmold  
Leaf spot  
Necrotic ring spot  
Pink patch  
Pink snowmold  
Powdery mildew  
Red thread  
Rust  
Spring dead spot

**Scientific Name**

*Colletotrichum graminicola*  
*Rhizoctonia solani*  
*Gloeocercospora sorghi*  
*Sclerotinia homeocarpa*  
*Fusarium Roseum*  
*Fusarium nivale*  
*Pyricularia grisea*  
*Typhula* spp.  
*Bipolaris* spp., *Drechslera* spp.  
*Leptosphaeria korrae*  
*Limonomyces roseipellis*  
*Microdochium nivale*  
*Erysiphe graminis*  
*Laetisaria fuciformis*  
*Puccinia graminis*  
*Leptosphaeria korrae*, *Leptosphaeria narmari*, *Ophiosphaerella herpotricha*,  
*Gaeumannomyces graminis*  
*Ustilago striiformis* and *Urocystis agropyn*  
*Magnaporthe poae*  
*Gaeumannomyces graminis*  
*Rhizoctonia cerealis*  
*Rhizoctonia solani*

Stripe smut

Summer patch  
Take-all patch  
Yellow patch  
Zoysia patch

**Use Restrictions**

- Do not use this product as a Tree injection treatment.
- Do not use this product in Greenhouses.
- Do not apply more than 1.93 pints of this product per 1000 square feet per calendar year.
- Chemigation: Do not apply this product through any type of irrigation system.
- Do not apply to residential landscape plants unless you are a certified or licensed applicator in the state of use.
- For use only by certified applicators or those under their immediate supervision.
- Do not apply with fixed wing or rotary aircraft.
- Not for use on turf being grown for sale or other commercial use as sod.
- Do not apply to home orchards/backyard fruit trees after fruit set.

**Use Precautions**

Failure to follow the directions for use and precautions on this label may result in plant injury or poor disease control.

**Tank Mixes of Protocol for Turfgrass and Ornamental Applications**

**See Mixing Instructions Section**

Add E-Z Mix compatibility agent (3.0 pints per 100 gallons) to tank mixes if necessary. Observe all directions, precautions and limitations on the labels of all products used in the tank mix. Tank mixes or other applications of products referenced on this label are permitted only in those states where referenced products are registered.

**Uses**

**Turfgrass**

- Use Protocol in a preventative disease control program.
- Apply in sufficient water to ensure thorough coverage.
- Apply after mowing or allow sprayed area to dry completely before mowing.
- For control of foliar diseases, allow sprayed area to dry completely before irrigation.
- For control of soilborne diseases, water in immediately after application.
- Under conditions that are optimum for high disease pressure, use the higher rate and shorter interval.
- For optimum turfgrass quality and disease control, use Protocol in conjunction with turf management practices that promote good plant health and optimum disease control.
- Evaluate spray additives prior to use. Label directions are based upon data obtained with no additives.
- Before using any fungicide, proper diagnosis of the organism causing the disease is important. Using diagnostic kits or other means of identification of the disease organism is essential to determine the best control measures.

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**Turfgrass cont'd.:**

**Use Restrictions**

- Maximum amount of Protocol allowed per calendar year: refer to table below for maximum application rates on specific turf sites.
- Maximum amount of thiophanate-methyl and propiconazole allowed per season: refer to table below for maximum application rates on specific turf sites.
- Do not graze animals on treated areas.
- Do not feed clippings from treated areas to livestock or poultry.

**Protocol, Maximum Application Rates**

Site	Maximum Single Application Rate	Maximum Seasonal Total per Acre		
		Product	Thiophanate-Methyl Lb Active Ingredient /Acre	Propiconazole Lb Active Ingredient /Acre
Residential/Public areas	9.7 pt/A or 3.6 fl oz/ 1000 sq ft	38.6 pt/A or 14.2 fl oz/ 1000 sq ft	10.88	1.79
Golf course: Tees, Greens, Aprons	21.2 pt/A or 7.78 fl oz/ 1000 sq ft	77.3 pt/A or 28.4 fl oz/ 1000 sq ft	21.80	
Golf course: Fairways (except Florida)	5.45 pt/A or 7.16 fl oz/ 1000 sq ft	19.3 pt/A or 7.1 fl oz/ 1000 sq ft	5.45	
Golf course: Fairways in Florida, only during overseeding	9.7 pt/A or 3.6 fl oz/ 1000 sq ft	9.7 pt/A or 3.6 fl oz/ 1000 sq ft	2.72	

**Use Precautions**

- Important: Bermudagrass can be sensitive to Protocol.
- Do not exceed 1.0 fluid ounce per 1000 square feet every 30 days on any variety of Bermudagrass.
- In Florida, do not apply Protocol to Bermudagrass golf course greens when temperatures exceed 90 °F.

**Protocol, Specific Disease Application Instructions**

**(Observe site specific maximum individual and seasonal application rates in the Maximum Application Rates table above.)**

Disease	Fl Oz/ 1000 Sq Ft	Pt/Acre	Application Interval (Days)	Specific Use Instructions
Anthracnose ( <i>Colletotricum graminicola</i> )	2.0 to 4.0	5.3 to 10.7	14 to 28	Apply when conditions favor disease development. When disease pressure is high, use the higher rate and shorter interval. For broad spectrum control, tank mix with a registered contact fungicide at the label rate.
Brown patch ( <i>Rhizoctonia solani</i> )			14 to 21	If disease is present, mix 4.0 fl oz of this product per 1000 sq ft with the labeled rate of a registered contact fungicide. Begin application in May or June before disease is present. Tank mix with the labeled rate of a contact fungicide registered for control of Brown patch. Under conditions of high temperature and humidity, use the higher rate and shorter interval.
Copper spot ( <i>Gloeocercospora sorghi</i> )	0.75 to 1.5	2.0 to 4.0	14	Apply when disease first appears, make applications at 14-day intervals or as needed.

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<b>Disease</b>	<b>Fl Oz/ 1000 Sq Ft</b>	<b>Pt/Acre</b>	<b>Application Interval (Days)</b>	<b>Specific Use Instructions</b>
Dollar spot ( <i>Sclerotinia homeocarpa</i> )	1.0	2.7	7	Apply when conditions favor disease development.
			14	Tank mix with low label rate of a contact fungicide containing chlorothalonil.
	2.0	5.3	21 to 28	Tank mix with low label rate of a contact fungicide containing chlorothalonil.
	2.0 to 4.0	5.3 to 10.7	14 to 28	If using the 2.0 to 4.0 fl oz/1000 sq ft rate without tank mixing, make no more than 3 consecutive applications for control of Dollar spot before rotating to an alternate EPA-registered fungicide having a different mode of action.
Fusarium blight ( <i>Fusarium roseum</i> )	3.7	10.0		Apply when disease first appears, make 2 applications. Water into the root zone with 1 inch of water immediately after application.
Fusarium patch ( <i>Fusarium nivale</i> )	4.0 to 7.75	0.7 to 21.0	Fall to early spring	Apply when conditions favor disease development.
Gray leaf spot ( <i>Pyricularia grisea</i> )	2.0 to 4.0	5.3 to 10.7	14	Apply when conditions favor disease development. If using the 2.0 fl oz/1000 sq ft rate, tank mix with a registered contact fungicide at the label rate.
Melting out, Leaf spot ( <i>Bipolaris</i> spp.) ( <i>Drechslera</i> spp.)		5.3 to 21.0		Under light to moderate pressure, apply this product to reduce the severity of Leaf spot and Melting out. For broad spectrum disease control, tank mix the 2.0 fl oz/1000 sq ft rate with a registered contact fungicide at the label rate.
Necrotic ring spot ( <i>Leptosphaeria korrae</i> )	7.75	21.0	Fall or spring	Apply in fall and/or the early spring depending upon local recommendations.
Pink patch ( <i>Limonomyces roseipellis</i> ) Red thread ( <i>Laetisaria fuciformis</i> )	2.0	10.7	14 to 21	Apply when conditions favor disease development.
Powdery mildew ( <i>Erysiphe graminis</i> ) Rust ( <i>Puccinia graminis</i> )	2.0 to 4.0	5.3 to 10.7	14 to 28	Apply when conditions favor disease development. If disease is present, use 4.0 fl oz of this product/1000 sq ft.
Snow mold, Gray ( <i>Typhula</i> spp.) Snow mold, Pink ( <i>Microdochium nivale</i> )	4.0 to 7.75	10.7 to 21.0	Late fall	Make 1 application in the late fall before snow cover. Do not apply on top of snow. For optimum disease control, the 4.0 and 5.86 fl oz Protocol rates should be tank mixed with chlorothalonil at label rates.
Spring dead spot ( <i>Leptosphaeria korrae</i> ), ( <i>Leptosphaeria narmari</i> ), ( <i>Ophiosphaerella herpotricha</i> ), ( <i>Gaeumannomyces graminis</i> )	7.8	21.0	30	Make 1 to 3 applications. If a single application is made, apply in September or October. For multiple applications, begin sprays in August.

*Cont'd next page*

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<b>Disease</b>	<b>Fl Oz/ 1000 Sq Ft</b>	<b>Pt/Acre</b>	<b>Application Interval (Days)</b>	<b>Specific Use Instructions</b>
Stripe smut ( <i>Ustilago striiformis</i> ), ( <i>Urocystis agropyri</i> )	2.0 to 4.0	10.7 to 21.0	Fall or spring	Apply once in the fall after turfgrass becomes dormant or in the early spring before turfgrass starts to grow.
Summer patch, Poa patch ( <i>Magnaporthe poae</i> )	4.0 to 7.8	10.7 to 21.0	14 to 28	Apply Protocol beginning in April. Use the 7.75 fl oz/1000 rate on 28-day schedule and the 4.0 fl oz/1000 sq ft rate on a 14-day schedule.
Take-all patch ( <i>Gaeuman-nomyces graminis</i> )	4.0 to 7.8	10.7 to 21.0	Spring and fall	Apply Protocol to reduce the severity of Take-all patch. Make fall applications in September and October or when night temperatures drop below 55 °F, and spring applications in April and May, depending on local recommendations.
Yellow patch ( <i>Rhizoctonia cerealis</i> )	5.9 to 7.8	16.0 to 21.0	Late fall	Make 1 application in the late fall before snow cover. Do not apply on top of snow. If using the 5.86 fl oz/1000 sq ft rate, tank mix with a registered contact fungicide at the label rate.
Zoysia patch, Large patch of Zoysia ( <i>Rhizoctonia solani</i> )	5.86 to 7.75	16.0 to 21.0	Early fall	Make 1 application in the early fall (mid-September to mid-October) prior to development of disease symptoms. Consult local turfgrass extension experts to determine the optimum application timing for your area.

**Establishment of Cool Season Turfgrass**

Protocol controls many Turfgrass diseases; its primary use is as a fungicide for use against the diseases listed on this label. As an additional benefit, this product improves the rate of establishment when it is applied to Cool season turfgrass seedlings or sod.

**Observe site specific maximum individual and seasonal application rates in the Maximum Application Rates table above.**

**New Seedlings:** Apply up to 1.5 fluid ounces per 1000 square feet at the 2- to 3-leaf stage of growth for faster root development and top growth.

**Sod:** Apply up to 1.5 fluid ounces per 1000 square feet 2 to 6 weeks before cutting for increased sod knitting and faster establishment after laying.

**Ornamental Plants**

Use Protocol in a preventative disease control program. To determine the use directions for controlling a disease on an Ornamental plant species, select the plant species in Table 1. The number(s) in parentheses following the listed plant species refers to the disease(s) controlled in Table 2. Find the disease in Table 2.

The letter in brackets following the disease refers to the application regime in Table 3.

Allow spray to dry before applying overhead irrigation.

Optimum benefit of Protocol is obtained when used in conjunction with sound disease management practices.

Protocol may be used at rates of 4.0 to 46.3 fluid ounces per 100 gallons of water for disease control in Ornamentals (see Tables 1, 2 and 3). For best control, begin applications before disease development. For general disease control in landscapes, apply 11.7 to 16.0 fluid ounces per 100 gallons water every 21 days. For best control, begin Protocol applications before disease development

**Use Restrictions**

To avoid possible illegal residues, do not apply to Bartlett pear, Cherry, Citrus, Nectarine, Peach, Pecan, Plum, or Walnut trees that will bear harvestable fruit within 12 months.

For outdoor uses, up to 10.6 gallons of Protocol may be applied per acre per calendar year.

**Use Precautions**

Plant tolerances to Protocol have been found acceptable for the specific genus and species of plants listed under the Directions for Use. Do not apply this product to African violets, Begonias, Boston fern, or Geraniums. Other plant species may be sensitive to Protocol and diseases other than those listed may not be controlled.



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Before using Protocol on plants or for diseases that are not listed in the Directions for Use, first test this product on a small-scale basis. Apply according to listed rates for a particular disease type, i.e., Rust, Powdery mildew, etc., and evaluate for phytotoxicity and disease control prior to widespread use.

**Table 1. Ornamental Plant Species**

**Number in parentheses (-) refer to diseases controlled in Table 2.**

**Herbaceous Ornamentals**

Calendula (4a)	English ivy (3e)	Marigold (3a)	Sweet william (3k)
Carnation (5f)	Gomphrena (3a)	Monarda (4c)	( <i>Dianthus barbatus</i> )
Chrysanthemum (2a)	Impatiens (3a, 3b, 4a)	Phlox (4c)	Zinnia (4c)
Delphinium (4a)	Iris (5d)	Snapdragon (5d)	

**Woody Ornamentals**

Amelanchier (4d)	Douglas fir (5b)	Maple (3e, 4f)	Roses (3g, 4e, 5c)
Ash (4c)	Elm (4c)	Oaks (3p)	(outdoor use only)
Azalea (2c, 4b)	Euonymus (3e, 4c)	Pines (1a, 1c)	Shasta fir (5e)
Bayberry (3n)	Hawthorn (5a)	Poplars (5b)	Sweetgum (3b, 3c, 3n)
Camellia (3e)	Holly (3r)	Pyracantha (3o)	Sycamore (3e)
Cotoneaster (3l)	Juniper (1a)	Red tip photinia (3l)	Tulip tree (3e, 4a)
Crabapple (3c, 3g, 4c, 5a)	Lilac (4c)	Rhaphiolepis (3e, 3i)	Wax myrtle (3n)
Crape myrtle (4a)	Linden (3e, 3b, 4b)	Rhododendron (2c, 3n)	
Dogwood (3h, 4c)	Magnolia (3e, 4b)		

**Table 2. Plant Diseases**

**Letters in brackets [-] refer to application regimes in Table 3.**

1. Conifer blights
  - a. *Phomopsis juniperovora* (*Phomopsis* blight) [B]
  - b. *Sirococcus strobolinus* (Tip blight) [D]
  - c. *Sphaeropsis sapinea* (*Diplodia* tip blight) [B]
2. Flower blight
  - a. *Ascochyta chrysanthemi* (ray blight) [C]
  - b. *Molinia* spp. [A]
  - c. *Ovulinia* spp. [B]
3. Leaf blights/spots
  - a. *Alternaria* spp. [B]
  - b. *Cercospora* spp. (brown leaf spot) [C]
  - c. *Cladosporium* spp. (scab) [C]
  - d. *Coccomyces hiemalis* [A]
  - e. *Collectrichum* spp. [B]
  - f. *Cristulariella* spp. (zonate leaf spot) [C]
  - g. *Diplocarpon rosae* (blackspot) [B]
  - h. *Discula* spp. (anthracnose) [A]
  - i. *Fabraea maculata* (syn. *Entomosporium maculata*) [B]
  - j. *Gnomonia leptostyla* (anthracnose) [C]
  - k. *Heterosporium echinulatum* [B]
  - l. *Mycosphaerella caryigena* (downy spot) [C]
  - m. *Mycosphaerella fructicola* (greasy spot) [E]
  - n. *Septoria* spp. (leaf scorch) [C]
  - o. *Spilocaea pyracanthae* [B]
  - p. *Tubakia dryina* [D]
  - q. *Venturia inaequalis* (scab) [A]
  - r. *Rhizoctonia* web blight [B]
4. Powdery mildew
  - a. *Erysiphe* spp. [B]
  - b. *Microsphaera* spp. [C]
  - c. *Oidium* spp. [B]
  - d. *Podosphaera* spp. [B]
  - e. *Sphaerotheca pannosa* [B]
  - f. *Phyllactinia* spp. [B]
5. Rust
  - a. *Gymnosporangium juniperi-virginianae* [A]
  - b. *Melampsora occidentalis* [D]
  - c. *Phragmidium* spp. [B]
  - d. *Puccinia* spp. [B]
  - e. *Pucciniastrum goeppertianum* [D]
  - f. *Uromyces dianthi* [B]

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**Table 3. Application Regimes**

- [A] Mix 4.0 to 8.0 fluid ounces of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Reapply every 14 to 21 days during the period of primary infection. If disease is present, tank mix with an EPA-registered contact fungicide. For Flower blight, apply this product when there is 5% to 10% bloom and again at 70% to 100% bloom. For Dogwoods, apply the 4.0 to 8.0 fluid ounces rate every 14 days, or apply 16.0 fluid ounces of this product every 28 days.
- [B] Mix 10.0 to 16.0 fluid ounces of Protocol in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply as needed, beginning when conditions favor disease development. For Blackspot, apply in tank mix with a registered contact fungicide labeled for Blackspot. For Calendula, apply every 30 days. For Diplodia tip blight, make a total of 3 applications every 14 days prior to the major period of infection. For Juniper phomopsis blight, make an initial application as soon as Junipers start to grow and reapply every 14 to 21 days during the period of active growth.
- [C] Mix 16.0 to 24.0 fluid ounces of Protocol in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply every 30 days, beginning when conditions favor disease development. For Pecans, apply the 12.0 fluid ounces rate. Beginning at bud break, make a total of 3 applications 14 days apart. For Walnuts, apply 16.0 fluid ounces every 14 to 21 days. For Ray blight, apply 24.0 fluid ounces every 7 days or 40.0 fluid ounces every 14 days. For Impatiens, Bayberry, Linden, Magnolia, Sweetgum and Wax myrtle, the maximum use rate is 42.6 fluid ounces.
- [D] Mix 32.0 fluid ounces of Protocol in 100 gallons of water and apply as a full-coverage spray to the point of drip. Apply every 14 to 28 days beginning when conditions favor disease development. For Douglas fir needle rust, apply once in May. For Tip blight, make an initial application in mid- to late winter, and 3 additional applications at 2-month intervals.
- [E] Mix 40.0 to 46.3 fluid ounces of Protocol in 100 gallons of water and apply as a full-coverage spray to the point of drip. Apply within the June to August time period.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup and disposal of wastes.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL: Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org). If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**For packages up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment

***Storage & Disposal cont'd.:***

or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 56 gallons:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**BEFORE BUYING OR USING THIS PRODUCT**, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

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